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10/748,162	12/31/2003	Misao Shiina	Q79094	6962

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EXAMINER	
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ART UNIT	PAPER NUMBER
2453	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/748,162	SHIINA, MISAO	
	Examiner	Art Unit	
	LASHANYA R. NASH	2453	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 May 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *1/10/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This Office action is in response to the amendment filed 15 May 2009. Claims 1-20 are presented for further consideration. Claim 18 is currently amended.

Response to Arguments

The objection to the specification has been withdrawn, in light of the amendments.

In considering Applicant's arguments the following statements are noted:

(I) Applicant contends that the cited portions of Garcia-Luna-Aceves do not support the rejection.

(II) Applicant contends that there is no teaching, or motivation to modify or combine GLA with Lachhiramka.

(III) Applicant contends that Garcia-Luna-Aceves fails to disclose the router coupled to the client via a client side interface.

(IV) Applicant contends that nowhere does Garcia-Luna-Aceves teach or suggest means for detecting a change in topology from the changes in the routing table.

In considering (I), Applicant contends that the cited portions of Garcia-Luna-Aceves do not support the rejection. Examiner respectfully disagrees. Applicant further contends that different embodiments of the invention disclosed by Garcia-Luna-Aceves are combined to support the rejection. Examiner again disagrees. The rejection is

supported by cited portions of Garcia-Luna-Aceves that maintain the same architecture (i.e. web router, web caches, and content server). This is evidenced in Garcia-Luna-Aceves' disclosure, as the same figure elements are referenced in the embodiments discussed in the cited paragraphs (i.e. paragraphs [0082], [0086], and [0088]). Furthermore, Examiner cites portions of the reference which explicitly describe the functionality of an element that has that same function in a subsequent embodiment (i.e. router receives content request) however that function is not repeated in the subsequently disclosed embodiments. Therefore, the features of the embodiments are not being combined (i.e. obviousness), as the cited portions share operability. Additionally, Examiner asserts that Garcia-Luna-Aceves expressly discloses a web router has functionality implemented as part of a content server, web server, and web cache (paragraph [0080], lines 1-7). Furthermore, Examiner asserts that Garcia-Luna-Aceves discloses that a web cache obtains the content from the selected optimum server and subsequently transfers the content to the requesting client (paragraph [0088], lines 1-19). Therefore, it logically follows that a web router co-located and sharing similar functionality of the cache would also accomplish the aforementioned operability. As a result, it is evident that Garcia-Luna-Aceves teaches a web router that obtains the content from the selected optimum server and transfers the content to the client.

In considering (II), Applicant contends that there is no teaching, or motivation to modify/or combine GLA with Lachhiramka. In response to applicant's argument that

there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, one of ordinary skill in the art would have been so motivated to accordingly modify the teachings of Garcia-Luna-Aceves so as to provide a network device (i.e. router) that performs high-performance content routing (Lachhiramka, *1. Introduction*, lines 12-15).

In considering (III), Applicant contends that Garcia-Luna-Aceves fails to disclose the router coupled to the client via a client side interface. Examiner respectfully disagrees. Examiner asserts that Garcia-Luna-Aceves expressly discloses that a client connects to a network, namely the Internet, and subsequently to a remote content server via a set of high speed connections between computer resources of that network (paragraph [0078]). Furthermore, Garcia-Luna-Aceves discloses that the web routers are connected to the aforementioned network in which the client is connected in order to route information, via links, to and from content servers (paragraph [0079]). Therefore, it is evident that in order for the client to receive distributed content information (e.g. text, video, audio, etc.) from the remote content server located across a network, the client is connected to the routers via that aforementioned network. Subsequently the client has a

connection to the remote content servers and mirrors through networks infrastructure links between the routers to the servers. Therefore, it is evident that Garcia-Luna-Aceves discloses the features recited in Applicant's claim 7, as set forth below in the Office action. Examiner additionally notes that Applicant's claim language is broad, and does not explicitly recite nor implicitly suggest that the connection between the client and router be that of a direct connection, or exclude the coupling of the client to router be through the client side interface coupling to a network.

In considering (IV), Applicant contends that nowhere does Garcia-Luna-Aceves teach or suggest means for detecting a change in topology from the changes in the routing table. Examiner respectfully disagrees. Applicant further contends that web router finds changes in topology from messages carrying updated, as opposed to the changes in the routing table. However, Examiner asserts that Garcia-Luna-Aceves explicitly discloses that changes in the routing table are also transmitted as content in these update messages that are subsequently employed by routers to determine topology changes (paragraph [0049], lines 8-13). Therefore, it is evident that a change must be detected in the table which thereby results in the messages being generated and conveyed to routers that contains this updated table information.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Garcia-Luna-Aceves et al (US Patent Application Publication 2003/0101278) in view of Lachhiramka et al. ("Switch Based Traffic Distribution for Web Server Farms"-retrieved from Internet), hereinafter referred to as Garcia-Luna-Aceves and Lachhiramka, as set forth below in the Office action.

In reference to claim 1, Garcia-Luna-Aceves discloses a router employed for directing clients to optimal servers in computer networks (abstract). Garcia-Luna-Aceves further discloses:

- An IP router (i.e. web router; Figure 2-item 202; paragraph [0072], lines 1-6) including an IP(Internet Protocol) routing table which stores routing information (paragraph [0050], lines 1-17; paragraph [0075], lines 4-18) for connecting a plurality of client devices (i.e. client; Figure 2-item 110) with an original server (i.e. content server; Figure 2-item 210) which is at least an origin of supplying a content and with a plurality of mirror servers (i.e. web caches; Figure 2-item 208) into which the content supplied from the original server is copied (i.e. content at content server is replicated at web caches; paragraph [0068], lines 1-7; paragraph [0079], lines 11-17), the IP router comprising:

- means for obtaining request information of a content requested by the client device (i.e. router receives request packets from clients for forwarding; paragraph [0006], lines 1-12;paragraph [0082], lines 1-13);
- means for selecting an optimum server for the request information (i.e. optimal server selected; paragraph [0069], lines 1-6) based on information which is to be an index for selecting an optimum server (i.e. metrics associated with route mappings; paragraph [0048], lines 1-5; paragraph [0052], lines 1-8; paragraph [0073], lines 8-18) if the obtained request information corresponds to the plurality of mirror servers (i.e. requested URL for content supplied by web caches and content server; paragraph [0086], lines 1-6 or client serviced by web caches and content server; paragraph [0087], lines 1-8) and based on the routing information (i.e. paragraph [0073], lines 13-18;)
- means for obtaining the content by connecting with the optimum server selected and means for transferring the obtained content to the client device (paragraph [0086], lines 1-15; paragraph [0088], lines 1-19).

The reference fails to disclose ending a connection relating to a packet output from a specific port of the client device. Nonetheless, this was a well-known feature in the art at the time of the invention as further evidenced by Lachhiramka. Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to accordingly modify the teachings of Garcia-Luna-Aceves.

In an analogous art, Lachhiramka discloses routers employed to route client requests to the best location where that content is available (*1. Introduction*, paragraph 1). Lachhiramka further discloses in forwarding the client request to a determined destination server, ending a connection relating to a packet output from a specific port of the client device (abstract and *3.1. Packet Classification*). One of ordinary skill in the art would have been so motivated to accordingly modify the teachings of Garcia-Luna-Aceves so as to provide a network device (i.e. router) that performs high-performance content routing (Lachhiramka, *1. Introduction*, lines 12-15).

In reference to claim 7, Garcia-Luna-Aceves discloses a router employed for directing clients to optimal servers in computer networks (abstract). Garcia-Luna-Aceves further discloses:

- A communication system (Figure 2) comprising:
- a plurality of client devices (i.e. client; Figure 2-item 110; paragraph [0078], lines 10-19);
- an original server (i.e. content server; Figure 2-item 210) which at least serves as an origin of supplying a content (paragraph [0079], lines 11-15);
- a plurality of mirror servers (i.e. web caches; Figure 2-item 208) which copy and hold the content supplied from the original server (i.e. content at content server is replicated at web caches; paragraph [0068], lines 1-7; paragraph [0079], lines 16-17); and

- an IP(Internet Protocol) router (i.e. web router; Figure 2-item 202) for connecting the plurality of client devices with the original server and the plurality of mirror servers over a network; (paragraph [0072], lines 1-6):
- wherein the IP router includes an IP(Internet Protocol) routing table for storing routing information (paragraph [0050], lines 1-17; paragraph [0075], lines 4-18), and comprises:
- means for ending a connection relating to a packet output from a specific port of the client device and obtaining request information of a content requested by the client device (i.e. router receives request packets from clients for forwarding; paragraph [0006], lines 1-12;paragraph [0082], lines 1-13);
- means for selecting an optimum server for the request information (i.e. optimal server selected; paragraph [0069], lines 1-6) based on information which is to be an index for selecting an optimum server (i.e. metrics associated with route mappings; paragraph [0048], lines 1-5; paragraph [0052], lines 1-8; paragraph [0073], lines 8-18) if the obtained request information corresponds to the plurality of mirror servers (i.e. requested URL for content supplied by web caches and content server; paragraph [0086], lines 1-6 or client serviced by web caches and content server; paragraph [0087], lines 1-8) and based on the routing information (i.e. paragraph [0073], lines 13-18;)

- means for obtaining the content by connecting with the optimum server selected (paragraph [0086], lines 1-15; paragraph [0088], lines 1-19).

The reference fails to disclose ending a connection relating to a packet output from a specific port of the client device. Nonetheless, this was a well-known feature in the art at the time of the invention as further evidenced by Lachhiramka. Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to accordingly modify the teachings of Garcia-Luna-Aceves.

In an analogous art, Lachhiramka discloses routers employed to route client requests to the best location where that content is available (*1. Introduction*, paragraph 1). Lachhiramka further discloses in forwarding the client request to a determined destination server, ending a connection relating to a packet output from a specific port of the client device (abstract and *3.1. Packet Classification*). One of ordinary skill in the art would have been so motivated to accordingly modify the teachings of Garcia-Luna-Aceves so as to provide a network device (i.e. router) that performs high-performance content routing (Lachhiramka, *1. Introduction*, lines 12-15).

In reference to claims 13, 18, and 20 Garcia-Luna-Aceves discloses a method [claim 13] (paragraph [0069], lines 1-3) and associated computer software [claim 18] (paragraph [0047], lines 9-10) and downloaded software [claim 20] (paragraph [0081], lines 1-8) employed for directing clients to optimal servers in computer networks (abstract). Garcia-Luna-Aceves further discloses:

- A band setting method of an IP router (i.e. web router; Figure 2-item 202) for setting a band (paragraph [0072], lines 1-6' paragraph [0073], lines 1-13) when connecting a plurality of client devices (i.e. client; Figure 2-item 110) with an original server (i.e. content server; Figure 2-item 210) which is at least an origin of supplying a content and with a plurality of mirror servers (i.e. web caches; Figure 2-item 208) into which the content supplied from the original server is copied (i.e. content at content server is replicated at web caches; paragraph [0068], lines 1-7; paragraph [0079], lines 11-17), the IP router comprising:
- obtaining request information of a content requested by the client device (i.e. router receives request packets from clients for forwarding; paragraph [0006], lines 1-12;paragraph [0082], lines 1-13);
- selecting an optimum server for the request information (i.e. optimal server selected; paragraph [0069], lines 1-6) based on information which is to be an index for selecting an optimum server (i.e. metrics associated with route mappings; paragraph [0048], lines 1-5; paragraph [0052], lines 1-8; paragraph [0073], lines 8-18) if the obtained request information corresponds to the plurality of mirror servers (i.e. requested URL for content supplied by web caches and content server; paragraph [0086], lines 1-6 or client serviced by web caches and content server; paragraph [0087], lines 1-8) and based on the routing information (i.e. paragraph [0073], lines 13-18;)

- obtaining the content by connecting with the optimum server selected and transferring the obtained content to the client device (paragraph [0086], lines 1-15; paragraph [0088], lines 1-19);
- detecting, from a change in the contents of the IP routing table, that a network topology has been changed (paragraph [0073], lines 13-18);
- altering a selection criteria of the optimum server (i.e. updating tables) based on a result of detecting that the network topology has been changed (paragraph [0049], lines 1-12; paragraph [0053], lines 1-9); and
- altering a band setting (i.e. bandwidth; paragraph [0073], lines 8-13) for each service class according to a traffic change accompanying an alteration of the selection criteria (paragraph [0076], lines 1-9).

The reference fails to disclose ending a connection relating to a packet output from a specific port of the client device. Nonetheless, this was a well-known feature in the art at the time of the invention as further evidenced by Lachhiramka. Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to accordingly modify the teachings of Garcia-Luna-Aceves.

In an analogous art, Lachhiramka discloses routers employed to route client requests to the best location where that content is available (*1. Introduction*, paragraph 1). Lachhiramka further discloses in forwarding the client request to a determined destination server, ending a connection relating to a packet output from a specific port of the client device (abstract and *3.1. Packet Classification*). One of ordinary skill in the art would have been so motivated to accordingly modify the teachings of Garcia-Luna-

Aceves so as to provide a network device (i.e. router) that performs high-performance content routing (Lachhiramka, *1. Introduction*, lines 12-15).

In reference to claims 2 and 19, Garcia-Luna-Aceves discloses a means for detecting, from a change in the contents of the IP routing table, that a network topology has been changed (paragraph [0073], lines 13-18); a means for altering a selection criteria of the optimum server (i.e. updating tables) based on a result of detecting that the network topology has been changed (paragraph [0049], lines 1-12; paragraph [0053], lines 1-9); and a means for altering a band setting (i.e. bandwidth; paragraph [0073], lines 8-13) for each service class according to a traffic change accompanying an alteration of the selection criteria (paragraph [0076], lines 1-9).

In reference to claims 3, 9 and 14 Garcia-Luna-Aceves discloses wherein the information to be an index for selecting the optimum server is at least one of: information for driving/stopping state per server, RTT(Round-Trip Time) information, or throughput information (paragraph [0073], lines 8-18).

In reference to claims 4, 10, and 15 Garcia-Luna-Aceves discloses wherein the means for selecting an optimum server selects the optimum server by additionally considering a past access track record (paragraph [0086], lines 1-15).

In reference to claims 5 and 11 Garcia-Luna-Aceves discloses wherein a health check for obtaining information (i.e. validity), per server, which is to be an index for selecting the optimum server is performed when a change in contents of the IP routing table is recognized (paragraph [0129], lines 1-6).

In reference to claims 6, 12, and 17 Garcia-Luna-Aceves discloses means for monitoring a changing situation of the traffic for a predetermined certain period of time (paragraph [0039], lines 5-11), wherein the means for altering the band setting alters the band setting for each service class by using a result of monitoring the changing situation of the traffic, performed by the means, as a trigger (paragraph [0073], lines 8-18).

In reference to claim 8, Garcia-Luna-Aceves discloses a means for transferring the obtained content to the client device (paragraph [0086], lines 1-15; paragraph [0088], lines 1-19); a means for detecting, from a change in the contents of the IP routing table, that a network topology has been changed (paragraph [0073], lines 13-18); altering a selection criteria of the optimum server (i.e. updating tables) based on a result of detecting that the network topology has been changed (paragraph [0049], lines 1-12; paragraph [0053], lines 1-9); and altering a band setting (i.e. bandwidth; paragraph [0073], lines 8-13) for each service class according to a traffic change accompanying an alteration of the selection criteria (paragraph [0076], lines 1-9).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LASHANYA R. NASH whose telephone number is (571)272-3957. The examiner can normally be reached on 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on (571) 272-4001. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/LaShanya R Nash/
Examiner, Art Unit 2453
August 24, 2009

/ARIO ETIENNE/
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